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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/614,896 | 07/09/2003 | Makoto Ito | 01-443 | 8452 |
| 23400 | 7590 | 03/26/2004 | EXAMINER | |
| POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190 | | | LE, DANG D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2834 | |

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/614,896 | Applicant(s) ITO ET AL. | |
| | Examiner Dang D Le | Art Unit 2834 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 9-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 and 9-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5 and 9-15 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reversely connection of "output terminals of some of the plurality of Hall elements" as claimed in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite because it is not clear what n is. ClaimS 13 and 14 are indefinite because it is not clear what m and theta(a) are.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Asama et al. (5,469,005).

Regarding claim 9, Asama et al. shows a three-phase brushless motor (Figure 1), comprising:

- A rotor (42) having an output shaft;
- A stator (48) having a plurality of excitation coils and power supply terminals respectively connected to each of the plurality of excitation coils;
- A sensor magnet (44) for rotating integrally with the rotor and being attached to the output shaft;
- A circuit board (10) having a power supply control circuit and a plurality of Hall elements (H1-H3) mounted thereon, the plurality of Hall elements having connection terminals corresponding to the power supply terminals and being arranged with a mechanical angular spacing of less than 180 degrees (40 degrees in Figure 1) around the output shaft.

Regarding claim 11, it is noted that Asama et al. also shows all of the limitation of the claimed invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asama et al. in view of Ishigaki et al. (4,242,608).

Regarding claim 10, Asama et al. show all of the limitations of the claimed invention except for output terminals of some of the plurality of Hall elements being reversely connected for inverting phases of respective output signals.

Ishigaki et al. shows output terminals of the plurality of Hall elements being reversely connected for the purpose of reducing the unbalance voltages of the hall elements.

Since Asama et al. and Ishigaki et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to connect the output terminals of the hall elements reversely as taught by Ishigaki et al. for the purpose discussed above.

10. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asama et al. in view of Kyodo (5,796,231)

Regarding claim 12, Asama et al. shows all of the limitations of the claimed invention except for phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of output signals from said plurality of Hall elements.

Kyodo shows phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of output signals from said plurality of Hall elements for the purpose of controlling the motor operation.

Since Asama et al. and Kyodo are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a phase adjusting means as taught by Kyodo for the purpose discussed above.

Regarding claims 13-15, it is noted that Shinohara et al. and Kyodo also show all of the limitations of the claimed invention.

11. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. (US 2001/0013731) in view of Asama et al. (5,469,005).

Regarding claim 1, Shinohara et al. shows a brushless motor used (intended use, patentable weight not given) in a blower of a vehicle air-conditioning system, comprising:

- A stator with a plurality of sets of excitation coils (Figure 2) therearound;
- A rotor (Figure 3);
- A sensor magnet (17) having n poles ($12, n > 2$) rotated integrally with said rotor; and
- A first Hall element, a second Hall element, and a third Hall element, each (23a-23c) for detecting a magnetic field of said sensor magnet, wherein
- An angular distance between the first and second magnetic sensors, and an angular distance between the second and third magnetic sensors are set to be a smallest possible one of angles less than 180 degrees that are obtained by $(3m + 1)\theta$ (10 degrees in Figure 3) and $(3m + 2)\theta$ (20 degrees in Figure 3), where m is an integer and equal to or larger than zero, and θ is a basic minimum mechanical angle obtained by $360 \text{ degrees}/(n \times 3)$.

Shinohara et al. does not show a substrate for mounting the Hall elements.

Asama et al. uses a substrate for mounting the Hall elements for the purpose of supporting the Hall elements.

12. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. (US 2001/0013731) in view of Asama et al. (5,469,005) and further in view of Kyodo (5,796,231).

Regarding claim 2, Shinohara et al. and Asama et al. show all of the limitations of the claimed invention except for phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of output signals from said first, second, and third magnetic sensors.

Kyodo shows phase adjusting means for generating having a mutual phase position signals difference of electrical angle of 120 degrees by adjusting phases of output signals from said first, second, and third magnetic sensors for the purpose of controlling the motor operation.

Since Shinohara et al., Asama et al., and Kyodo are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include a phase adjusting means as taught by Kyodo for the purpose discussed above.

Regarding claims 3-5, it is noted that Shinohara et al., Asama et al., and Kyodo also show all of the limitations of the claimed invention.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

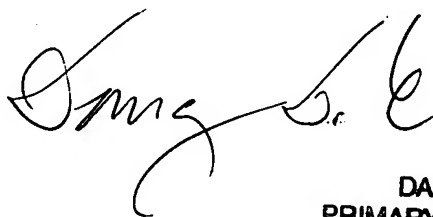
Information on How to Contact USPTO

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3/13/04

A handwritten signature in black ink, appearing to read "Dangle", with a stylized flourish at the end.

**DANGLE
PRIMARY EXAMINER**